RESUME

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OVERVIEW

Master of technology (Design engineering, IIT Bombay) with 12+ years of professional experience has in-depth knowledge in automotive component design (Design of Suspension system and Chassis Parts), Project Management, and Team building (Recruitment & Training). Proficient in Stress Analysis, Fracture mechanics (Linear, Non-linear, Modeling & Analysis of Cracks). Design & analysis of Mechanisms.

SCHOLASTIC ACHIEVEMENTS

- Research paper presented at 16th US National Congress for Theoretical and Applied Mechanics held at Penn State University, USA on the topic " Stress Analysis of two unequal cracks emanating from two unequal circular rivet holes" (2010)

- Ranked among the top 1% of the 20000 students in Graduate Aptitude Test in Engineering (2007)
- Selected for the Live project with CFT on Steering gear designing for TATA ACE (2004)

PROFESSIONAL EXPERIENCE

Organization: **IFB APL Pvt Ltd** **Feb 2020 – Present**
Designation: Manager, Automotive Seating division.
Role: Design and development of Automotive seating Mechanisms.

- Working as project lead for automotive seating project, which involves handling complete product cycle of the Seating mechanism. Design and development of seat suspension for commercial vehicles.
- Responsible as Project Manager, VAVE coordinator, Internal Auditor and Coordinator for Patent filing activity.

Organization: TVS Motor Company ltd. **July 2016 – Jan 2020**
Designation: Deputy Manager.
Role: Designer of Steering and Suspension systems for High Performance Motorcycles (BMW Platform).
Vehicles: Apache 310 RR, BMW G 310 R and BMW 310 GS.
Responsibility:

- Design and Development of Steering and Suspension system for the said vehicles, which includes study of the market requirements, advance features, warranty analysis and past product problems.
- Benchmarking of the competition vehicles which has inverted forks & Mono-shocks and understanding of the Must be quality features.
- Development of Basic concepts and validation of same via DFMEA, Design for Manufacturing, Design for Assembly and Design for Service.
- Optimization of the design concept via design calculations, FEA and other simulation tools.
- Development of parts via proto route and evaluation of the concept at the vehicle level.
- Study of patents for the designed parts and check for infringements if any.
- Execution of Design verification plan through tooled up parts. Part level as well as assembly level tests.
- Evaluation of parts via Functional Design Reviews and development of Risk mitigation plan.
- Field failure analysis and failure resolution through systematic QC story and 8D approach.
- Development of new test standards and upgrading the existing test standards to capture the field failures.
- Supporting the Homologation, Regulatory activities, Service and owner's manual.
- Standardization of Things Gone Right and Things Gone Wrong documents.
- Developed the test standards to evaluate the performance of Grease for steering bearing for high performance vehicles, which later implemented in High performance vehicle.
- Developed the test standard for the Shock absorber mounting bolts and its requirements.
- Guided 2 interns on projects: Development of test standards to access the impact on Front fork due to frontal impact and Effect of panic braking on Front forks.

Key Achievements:

- **Designed and developed the inverted front forks for Apache 310 RR, BMW G 310 R and BMW 310 GS.**
- Initiated VAVE idea which lead to major cost saving.
- Identified the root cause and developed the solution system to prevent oil leak problem in Inverted forks which was the one among top three customer complaints.

Organization: **Daimler India Commercial Vehicles Pvt Ltd.** **July 2010 – July2016**
Designation: Specialist, Manager, Product Engineering.
Role: Project Coordinator for Mercedes Benz Custom tailored trucks.
Responsibility: Nov 14 – Jul 16

- Deputed to Mercedes Benz – France (Nov14- Jan 15) to support Chassis team and develop the business relation
- Trained in the methodology and process of custom tailored trucks.
- Gone through the manufacturing processes and its limitations for Custom tailored Truck.
- Used this methodology to train and lead a team of Design and Development Engineers. (Understanding the Homologation requirement, Designing, Packaging and routing).
- Evaluating the work package, Customer technical requirement and design concept alignment.
- Time/ Man power estimation (Resource allocation) for the design projects.
- Execution of the project within the time line (Efficiency) with quality.
- Tracking the status of the project, reviewing the quality, capturing the lesson learnt and training young engineers to meet the global standards.

➢ **Development of Suspension and Frame mounted parts for Bharat Benz vehicles.** July 10 –Nov 14

- Design and Analysis of leaf springs using the theoretical calculations (Japanese methods)
  a) Tip Contact method
  b) Leaf development method
- Involved in ride tuning activity and Roll-Stability analysis for development of the ride comfort vehicle.
- Design and development of Frame mounted components.
- Defining the design variation plans at component and vehicle levels.
- Designed /localized and developed the ARB for 9T, 12T, 16T and 25T vehicles to ensure Roll-Stability.
- Testing and analyzing the failed components for improving the quality and reliability.
- Preparation of the Specification book, Design Calculations, Defining DFMEA, Preparation of 3D/2D of the component, packaging and Documentation.
- Achieving the excellence through communization, optimization and innovations.
- Following the Commercial Vehicle Development System to ensure reliable product.

Key Achievements:

- **Involved in Design and development of suspension system for light duty trucks platform.**
- Trained and lead team of 6 Engineers to execute the custom tailored truck projects.
- Communization of Rear suspension system between 9T and 12T Vehicles.

Research Experience **Sept`2005-Apr`2006**

Organizations: Indian Institute of Science, Bangalore, Department of Science and Technology and ISRO.
Designation: Project Assistant.
Title: Non-linear analysis of flanged joint with metal to metal contact.
Principle Investigator: Prof. Anidya Chatterjee, IISc, Bangalore

- Prediction of stress and displacement of flanged joint under the load.
- Analysis on axis-symmetric model & detailed 3D model using contact elements to estimate the stress.
- Carried out non-linear analysis & simplified analysis using sub- structuring elements (Time optimization) and the results were compared to understand the effect of non-linearity.

ACADEMIC PROJECT DETAILS

M. Tech thesis Dec'2008-May2010

Title**:** Comparison of Analytical (MATLAB) and FEA (ANSYS) results of two unequal cracks starting from two unequal circular rivets.
Guide: Prof. V.G. Ukadgaonkar. IIT-Bombay.

- Prediction of stress intensity factor and stress field around a crack emanating from circular riveted hole.
- Interaction effect of one crack on other crack when the cracks emanating from two different riveted holes.
- Finding the effect of anisotropy, centre distance between holes, loading condition and different aspects on Stress intensity factor and Stress fields.
- Finding the theoretical solution to the problem and coding with MATLAB. Comparing the results with results of commercial software ANSYS.

B. E Project 2003 - 2004

Title: New product development (NPD) for steering mechanism for TATA ACE Using ISO TS: 16949 procedures.
Industry: M/s RANE (MADRAS) LTD., Mysore.

- A Real-time project aimed at the developing a new product as per the specification of ISO TS: 16949 standards as a part of Advanced Product Quality Planning (APQP).

- House of quality/ Bench Marking
- Process Failure Mode and Effect Analysis (PFMEA)
- Design Failure Mode and Effect Analysis (DFMEA)
- Quality Control Process Chart (QCPC)
- Standard Operating Procedure.

INTERNSHIP May 2008-July2008

- Guide: Prof. R.P. Shimpi. Aerospace Dept. IIT- Bombay.
- Conducted the literature survey on the trends in plates & shells.
- Typical problems on Plates & Shells are solved, coded and compared with results available in literature.
- An attempt made to find the solution for the unsolved problem in the literature.

EDUCATION DETAILS

Degree/ Certificate	Institute/ School	University/ Board	Year	Percentage/ CPI
M.Tech (Mechanical Engg) Specialization- Design Engg	IIT Bombay	IIT Bombay	2007- 2010	8.95 / 10
B. E (Mechanical Engg)	NIE, Mysore	VTU, Karnataka	2000-2004	64.56 %
10+2	Bharathi College	KPUB, Karnataka	1998-2000	71.50 %
Matriculation	Municipal High school	HSB, Karnataka	1998	74.56 %

- **Design tools** : DFMEA, DFM & A, QFD – HOQ, DOE, QC story & 7QC tools, GD&T, DFSS, TRIZ, VA-VE, 8D Tools.
- **Software** : PTC Windchill Creo 3.0, Pro-E & MathCAD, Matlab R2012a, CATIA, Ansys 10.0, Abaqus 6.12, C, SOLIDWORKS, Unigraphics-NX.
- **Soft skills** : Personal & People leadership, Emotional intelligence, Customer centricity, Business Acumen, Interpersonal effectiveness.
- **Languages** : English, Hindi, Kannada and Tamil.
- **Other interests** : Cricket, Cycling, Novels and swimming.